

Appl. No.: 09/519,015

Amendment Dated: 11/10/06

Reply to OA of 3/27/06

**AMENDMENT TO THE CLAIMS**

The listing of the claims will replace all prior versions and listings of claims in the application:

**LISTING OF CLAIMS**

Please amend the claims as follows:

- 1 1. (Currently Amended) A cellular wireless re-use communication system
- 2 comprising:
  - 3 a base transceiver station cluster, the base transceiver station cluster comprising:
    - 4 a first plurality of base station transceivers; and
    - 5 a plurality of common channel areas, each common channel area having a
    - 6 unique set of common assigned channels;
    - 7 each common channel area comprising at least one subscriber unit, each
    - 8 subscriber unit within the common channel area receiving and recovering information
    - 9 signals from both the first and a second plurality of base station transceivers through one of
    - 10 the set of common assigned channels that correspond to the common channel area, wherein
    - 11 the first and second plurality of base station transceivers spatially multiplex a common
    - 12 information signal to the subscriber unit.

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1    2. (Original) The cellular wireless re-use communication system of claim 1, further  
2    comprising a plurality of base transceiver station clusters.

1    3. (Original) The cellular wireless re-use communication system of claim 1, wherein  
2    each common assigned channel comprises a common transmission characteristic.

1    4. (Previously Presented)      The cellular wireless re-use communication system of claim  
2    3, wherein the common transmission characteristic is a transmission frequency.

1    5. (Previously Presented)      The cellular wireless re-use communication system of claim  
2    3, wherein the common transmission characteristic is a transmission time.

1    6. (Previously Presented)      The cellular wireless re-use communication system of claim  
2    3, wherein the common transmission characteristic is a transmission code.

1    7. (Previously Presented)      The cellular wireless re-use communication system of claim  
2    3, wherein the common transmission characteristic is at least one of: a frequency-division,  
3    a time-division, a spatial-division, a code-division, orthogonal frequency division multiple  
4    access (OFDMA), wavelength division multiple access (WDMA), wavelet division  
5    multiple access techniques.

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1 8. (Original) The cellular wireless re-use communication system of claim 1, wherein the  
2 second plurality of base station transceivers generating signals within the common  
3 assigned channel corresponding to the common channel area of a corresponding subscriber  
4 unit, are located within the common channel area.

1 9. (Original) The cellular wireless re-use communication system of claim 1, wherein at  
2 least one of the second plurality of base station transceivers generating signals within the  
3 common assigned channel characteristic corresponding to the common channel area of a  
4 corresponding subscriber unit, are located outside of the common channel area.

1 10. (Original) The cellular wireless re-use communication system of claim 1, wherein the  
2 subscriber unit receiving information signals from a second plurality of base station  
3 transceivers through a one of the set of common assigned channels, allows for spatial  
4 multiplexing.

1 11. (Original) The cellular wireless re-use communication system of claim 1, wherein the  
2 subscriber unit receiving information signals from a second plurality of base station  
3 transceivers through a one of the set of common assigned channels, allows for  
4 communication diversity.

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1 12. (Original) The cellular wireless re-use communication system of claim 1, wherein the  
2 communication diversity comprises transmitter diversity.

1 13. (Original) The cellular wireless re-use communication system of claim 1, wherein the  
2 communication diversity comprises receiver diversity.

1 14. (Currently Amended) A cellular wireless re-use communication system  
2 comprising:

3 a plurality of base transceiver station clusters, each base transceiver station cluster  
4 comprising:

5 at least one base station transceiver; and

6 at least one common channel area, each common channel area having a unique set  
7 of common assigned channels;

8 each common channel area comprising at least one subscriber unit, each subscriber  
9 unit within the common channel area receiving and recovering information signals from  
10 both the first and a second plurality of base station transceivers through one of the set of  
11 common assigned channels that correspond to the common channel area, wherein the first  
12 and second plurality of base station transceivers spatially multiplex a common information  
13 signal to the subscriber unit.

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1 15. (Currently Amended) A method of transmitting multiple information signals to at  
2 least one subscriber unit within a cellular wireless re-use communication system, the  
3 system comprising a base transceiver station cluster, the base transceiver station cluster  
4 comprising a first plurality of base station transceivers, and a plurality of common channel  
5 areas, each common channel area having a unique set of common assigned channels, each  
6 common channel area comprising at least one subscriber unit, the method comprising:

7 a second plurality of base station transceivers transmitting information signals  
8 through one of the set of common assigned channels that correspond to the common  
9 channel area; and

10 each subscriber unit within the common channel area receiving and recovering  
11 information signals from both the first and a second plurality of base station transceivers  
12 through one of the set of common assigned channels that correspond to the common  
13 channel area, wherein the first and second plurality of base station transceivers spatially  
14 multiplex a common information signal to the subscriber unit.

1 16. (Original) The method of transmitting multiple information signals to at least one  
2 subscriber unit within a cellular wireless re-use communication system of claim 15,  
3 wherein each common assigned channel comprises a common transmission characteristic.

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1 17. (Original) The method of transmitting multiple information signals to at least one  
2 subscriber unit within a cellular wireless re-use communication system of claim 16,  
3 wherein the common transmission characteristic is a transmission frequency.

1 18. (Original) The method of transmitting multiple information signals to at least one  
2 subscriber unit within a cellular wireless re-use communication system of claim 16,  
3 wherein the second plurality of base station transceivers transmitting signals within the  
4 common assigned channel corresponding to the common channel area of a corresponding  
5 subscriber unit, are located within the common channel area.

19. (Original) The method of transmitting multiple information signals to at least one subscriber  
unit within a cellular wireless re-use communication system of claim 16, wherein the second  
plurality of base station transceivers transmitting signals within the common assigned channel  
corresponding to the common channel area of a corresponding subscriber unit, are located  
outside of the common channel area.

20. (Original) The method of transmitting multiple information signals to at least one subscriber  
unit within a cellular wireless re-use communication system of claim 16, wherein the common  
transmission characteristic is at least one of: a frequency-division, a time-division, a spatial-  
division, a code-division, orthogonal frequency division multiple access (OFDMA), wavelength  
division multiple access (WDMA), wavelet division multiple access techniques.

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21. (New) A wireless communication system comprising:

two or more spatially separate transceivers, each transceiver having two or more antennas, wherein at least two of the two or more spatially separate transceivers to establish an orthogonal frequency division multiple access (OFDM) communication channel at the same center-frequency with a single receiver, and wherein the at least two of the two or more spatially separate transceivers spatially multiplex a common information stream to the single receiver via the OFDM communication channel.

22. (New) A wireless communications device comprising:

a receiver, to simultaneously establish a spatially multiplexed, orthogonal frequency division multiplexing (OFDM) wireless communication channel at a common center-frequency with two, spatially separate remote transceivers through which the receiver to receive and recover a common information stream that has been spatially multiplexed via the OFDM communication channel from the spatially remote transceivers.